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LISTENINIG TO IMAGES: VISUAL RHYTHM, GESTALT PERCEPTION, AND SYNAESTHETIC MAPPING IN MUSICAL COMPOSITION

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Abstract
This article explores how visual rhythm, as theorised by Rudolf Arnheim and articulated through Wassily Kandinsky's abstractionist framework, can be systematically interpreted into musical composition. While interdisciplinary dialogue between music and visual art has often relied on metaphorical or intuitive correspondences, fewer studies have demonstrated how visual perceptual structures may be operationalised as compositional method. Drawing on artistic research and practice-based inquiry. This contribution may be understood as an examination of visual rhythm as one specific generative operation within the broader mapping framework developed in my doctoral research. Central to the discussion is Arnheim's concept of visual rhythm, observing the movement of the eye through spatial forces, and its translation into temporal musical processes. Through a selected compositional case study derived from Kandinsky's Composition X, the article demonstrates how visual abstraction may function not merely as inspiration, but as a perceptually grounded generator of musical structure. The findings suggest that visual rhythm offers a viable and transferable compositional resource, expanding contemporary approaches to interdisciplinary composition, artistic research, and cross-modal perception.

Keywords
Visual rhythm, Artistic research, Kandinsky, Synaesthesia, Cross-modality, Music composition

Introduction

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The relationship between music and visual art has occupied composers, theorists, and artists for centuries, particularly in attempts to understand how perceptual structures may operate across sensory domains. From eighteenth-century colour organs and the synaesthetic experiments of early modernism to contemporary research in neuroaesthetics and embodied cognition, interdisciplinary discourse has repeatedly explored the possibility that sound and vision may share underlying organisational principles. Yet despite sustained interest in cross-modal relationships, much scholarship continues to approach visual–musical interaction metaphorically, symbolically, or intuitively, rather than structurally or perceptually.

In many interdisciplinary compositional practices, paintings function primarily as inspirational stimuli for musical creation. Musical works derived from visual art frequently rely upon narrative association, emotional atmosphere, or subjective interpretation without clearly articulating how visual structures themselves may generate musical form. As a result, the mechanisms through which visual organisation might become temporally operative within music often remain theoretically underdeveloped. While important scholarship has explored synaesthesia, cross-modal correspondences, and multisensory integration[2], fewer studies have demonstrated how perceptual structures derived from visual abstraction may function systematically within compositional methodology itself.

This article develops aspects of my doctoral research *Exploring Synaesthetic Music Composition using Wassily Kandinsky's Compositions: An Artistic Research Project* (University of the Free State, 2025), with a particular emphasis on the methodological role of visual rhythm in *Colour Sketches*[3]. It aims to address that visual rhythm may operate as a structurally generative force in musical composition. Rather than treating visual artworks as metaphorical prompts, the study argues that abstract visual organisation can be translated into musical processes through perceptually grounded compositional strategies. Central to this investigation is the claim that rhythm exists not only within sound, but

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[2] Lawrence E. Marks, *The Unity of the Senses: Interrelations among the Modalities*. New York: Academic Press, 1978; Ramachandran, V. S., and Edward M. Hubbard. "Psychophysical Investigations into the Neural Basis of Synaesthesia." *Proceedings of the Royal Society B: Biological Sciences* 268, no. 1470 (2001): 979–83; Spence, Charles. *Sensehacking: How to Use the Power of Your Senses for Happier, Healthier Living*. London: Viking, 2021.

[3] Available at https://youtu.be/RsqC9XYE4VA?list=RDRsqC9XYE4VA) Musical score available at: https://www.dropbox.com/scl/fi/xs7t9jzh31t9uafmvimxm/Colour-Sketches-REVISED-_2026.pdf?rlkey=l0hod8jbzkbjq8misjmbathvt&st=z01yey92&dl=0

also within visual perception itself. Drawing on Rudolf Arnheim's theory of visual rhythm and *Gestalt* perception, the article explores how the movement of the eye through spatial tensions, focal points, vectors, and geometric structures may be reinterpreted as musical time, orchestral motion, textural development, and formal organisation.

The study focuses specifically on the orchestral work *Colour Sketches*, a composition derived from sustained engagement with *Composition X* by Wassily Kandinsky. Kandinsky's abstract visual language provides a particularly fertile framework for interdisciplinary translation because his paintings already embody strong directional forces, spatial tensions, chromatic contrasts, and rhythmic distributions of form. Furthermore, Kandinsky's own writings repeatedly suggest that visual abstraction possesses dynamic and musical qualities capable of evoking movement, energy, and inner resonance beyond representational imagery. The article positions *Colour Sketches* not merely as a musical response to painting, but as an instance of artistic research in which composition functions as perceptual inquiry. Visual elements such as point, line, density, colour, and geometric direction are translated into musical parameters including orchestration, rhythm, register, texture, harmonic saturation, and formal pacing. The goal is not to establish universal equivalences between visual and sonic materials, nor to claim neurological synaesthesia as explanatory certainty. Rather, the research seeks to investigate whether perceptual relationships experienced visually may generate coherent temporal structures within music.

Recent scholarship increasingly recognises perception as multisensory, embodied, and dynamically constructed through interaction between sensory systems[4]. Research into cross-modal correspondences further demonstrates that listeners consistently associate auditory qualities such as pitch, brightness, density, and motion with visual dimensions including elevation, luminosity, spatial direction, and colour intensity[5]. These findings suggest that perception may operate through shared organisational tendencies that extend beyond isolated sensory modalities.

At the same time, the article acknowledges important limitations within cross-modal composition. Perceptual associations remain shaped by culture, memory, embodiment, and individual subjectivity. Colour–sound relationships, for example, cannot be treated as universally fixed

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[4] Leman, Marc. *Embodied Music Cognition and Mediation Technology*. Cambridge, MA: MIT Press, 2007.

[5] Deroy, Ophelia, and Charles Spence. "Crossmodal Correspondences: Four Challenges." *Multisensory Research* 29, nos. 1–3 (2016): 29–48.

systems. The compositional mappings employed within *Colour Sketches* therefore function not as deterministic translations, but as perceptually plausible interpretative relationships. The article consequently resists claims of objective equivalence and instead frames cross-modal composition as a negotiated field between perceptual structure, artistic intuition, and embodied listening. The article also situates this research within broader compositional discourse. While the work differs substantially from spectral composition, important parallels exist with composers such as Kaija Saariaho, Iannis Xenakis, and György Ligeti, whose music similarly foregrounds texture, density, spatiality, and perceptual transformation as structural concerns. Saariaho's evolving timbral fields, Xenakis's architectural and graphical thinking, and Ligeti's micropolyphonic textures all demonstrate compositional approaches in which sound is organised through perceptual behaviour rather than conventional thematic development. However, unlike these approaches, *Colour Sketches* derives its structural logic directly from external visual organisation, allowing the perceptual dynamics of abstract painting to generate musical form.

Several research questions therefore guide this study:

- How can visual rhythm be translated into musical composition through a systematic and perceptually grounded process?
- In what ways may *Gestalt* perception function as a shared organisational framework between visual and auditory experience?
- How can Kandinsky's abstract visual grammar generate orchestral structure, rhythm, texture, and form?
- To what extent may artistic research contribute to interdisciplinary understandings of perception and composition?

This study adopts a practice-based artistic research methodology in which composition functions simultaneously as a site of investigation and as a means of generating knowledge. Rather than treating the visual artwork as a source of illustrative material, the study asks how its perpetual organisation can become operational within musical composition. The investigation therefore focuses on the processes through high visual relationships are identified, abstracted, and subsequently reconfigured as musical relationships.

Literature Review

The relationship between music and visual art has occupied an important position within aesthetic philosophy, artistic modernism, perceptual psychology, and contemporary artistic research. Across these fields, scholars and practitioners have repeatedly sought to understand whether

relationships between sight and sound are metaphorical, structural, neurological, or perceptual in nature. While interdisciplinary engagement between visual and auditory media is longstanding, the systematic translation of visual structure into musical form remains comparatively underexplored. This literature review situates the present study within five interconnected areas of scholarship: abstraction and modernist aesthetics, *Gestalt* perception and visual rhythm, synaesthesia and cross-modal cognition, embodied and neuroaesthetic theories of perception, and artistic research as compositional methodology.

Abstraction and Modernism

The work of Wassily Kandinsky forms one of the most significant theoretical foundations for interdisciplinary discourse between music and visual art. Kandinsky's writings, particularly *Concerning the Spiritual in Art*[6] and *Point and Line to Plane*[7], proposed that visual forms possess intrinsic expressive and energetic properties capable of producing emotional and perceptual responses independent of representational content. For Kandinsky, abstraction was not merely stylistic reduction but a reorganisation of perceptual experience through point, line, colour, plane, tension, and movement.

Kandinsky consistently drew analogies between visual art and music, regarding music as the artistic medium most liberated from representational obligation. His notion of "inner necessity" suggested that artistic form emerges from internal perceptual and spiritual tensions rather than external imitation. Scholars such as Peg Weiss[8], and Lisa Florman[9] have demonstrated that Kandinsky's abstraction was profoundly shaped by spirituality, Theosophy, symbolism, and musical thinking.

Research into Kandinsky's relationship with music has frequently focused on his connections with composers such as Arnold Schoenberg and the broader modernist aspiration toward synaesthetic unity[10]. However, much of this literature remains interpretative or

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[6] Kandinsky, Wassily. *Concerning the Spiritual in Art*. Translated by M. T. H. Sadler. New York: Dover Publications, 1977.

[7] ———. *Point and Line to Plane*. Translated by Howard Dearstyne and Hilla Rebay. New York: Dover Publications, 1979.

[8] Weiss, Peg. *Kandinsky and Old Russia: The Artist as Ethnographer and Shaman*. New Haven, CT: Yale University Press, 1995.

[9] Florman, Lisa. *Concerning the Spiritual—and the Concrete—in Kandinsky's Art*. Stanford, CA: Stanford University Press, 2014.

[10] Brougher, Kerry, Judith Zilczer, Ari Wiseman, and Vivian Endicott Barnett. *Visual Music: Synaesthesia in Art and Music since 1900*. London: Thames & Hudson, 2005; Rucsanda, Mădălina Dana. "Aspects of the Relationship between Music

symbolic rather than methodological. While scholars acknowledge that Kandinsky's visual structures resemble musical organisation, fewer studies examine how his formal vocabulary may function as an operational compositional system.

The significance of Kandinsky within the present study lies precisely in this structural potential. His abstractionist grammar provides a framework through which visual rhythm may be interpreted as temporal organisation. Rather than treating Kandinsky's paintings as inspirational images, this research approaches them as perceptual systems whose internal logic may be reconstructed within musical form.

Gestalt Theory and Visual Rhythm

The translation of visual structure into musical organisation depends heavily upon theories of perception, particularly *Gestalt* psychology. *Gestalt* theorists argued that perception operates through organisational principles rather than through isolated sensory fragments. Arnheim's contribution is especially significant because he extends *Gestalt* theory into the analysis of visual rhythm and artistic perception. In *Art and Visual Perception*[11], Arnheim argues that vision is not passive observation but dynamic organisation. The eye moves through spatial tensions, directional vectors, balances, and interruptions, creating what he describes as visual rhythm. Rhythm, in this sense, is not reducible to repetition or symmetry but emerges through perceptual movement across visual space.

Arnheim's theories have particular relevance for interdisciplinary composition because they provide a perceptual framework through which visual relationships may become temporally generative. Rather than translating static images into static musical symbols, visual rhythm may shape pacing, gesture, tension, directionality, and structural continuity within sound. This understanding allows rhythm to be reconceptualised beyond conventional musical meter toward a broader theory of perceptual movement.

Kubovy's[12] work on perceptual grouping further reinforces the relationship between visual and auditory organisation. Kubovy demonstrates that grouping principles operate across sensory domains, suggesting that the cognitive organisation of visual information may share

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and Painting and Their Influence on Schoenberg and Kandinsky." *Bulletin of the Transilvania University of Brașov. Series VIII: Performing Arts* 12, no. 2 (2019): 91–100. https://doi.org/10.31926/but.pa.2019.12.61.21.

[11] Arnheim, Rudolf. *Art and Visual Perception: A Psychology of the Creative Eye*. Berkeley: University of California Press, 1974, 74.

[12] Kubovy, Michael. *The Psychology of Perspective and Renaissance Art*. Cambridge: Cambridge University Press, 1986.

structural affinities with musical listening. Similarly, Stephen Palmer's *Vision Science*[13] highlights the extent to which perceptual organisation depends upon relational systems rather than isolated stimuli.

The present study extends these *Gestalt* theories into compositional practice. The manual visual-attention tracing used in *Colour Sketches* are informed by Arnheim's conception of visual movement and *Gestalt* organisation. The traced pathways across Kandinsky's paintings become temporal trajectories within the music, transforming spatial attention into rhythmic and formal structure. In this sense, visual rhythm becomes audible through orchestration, registral motion, motivic fragmentation, and textural pacing.

Synaesthesia and Cross-Modal Correspondence

The relationship between colour and sound has long been associated with synaesthesia. Early studies by Georg Tobias Ludwig Sachs[14] documented involuntary multisensory experiences in which colours, sounds, and linguistic forms became perceptually interconnected. Contemporary synaesthesia research, particularly the work of Ramachandran and Edward Hubbard[15], frames synaesthesia as a neurological condition revealing important insights into perception, cognition, and conceptual mapping.

Subsequent research by Marks, Amin et al, and Jewanski et al[16], expanded understanding of multisensory correspondences beyond rare neurological synaesthesia toward broader perceptual associations shared across populations. Spence's[17] extensive work on cross-modal correspondence demonstrates that individuals consistently associate

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[13] Palmer, Stephen E. *Vision Science: Photons to Phenomenology*. Cambridge, MA: MIT Press, 1999.

[14] Sachs, Georg Tobias Ludwig. *Historiae Naturalis Duorum Leopardorum*. Erlangen: Palm, 1812; Jewanski, Jörg, Sean A. Day, and Jamie Ward. "A Colorful Albino: The First Documented Case of Synaesthesia, by Georg Tobias Ludwig Sachs in 1812." *Journal of the History of the Neurosciences* 18, no. 3 (2009): 293–303. https://doi.org/10.1080/09647040802431946.

[15] Ramachandran and Hubbard. *Psychophysical Investigations* 979–983.

[16] Marks, *The Unity of the Senses* 1978; Amin, Maina, Olufemi Olu-Lafe, Loes E. Claessen, Monika Sobczak-Edmans, Jamie Ward, Adrian L. Williams, and Noam Sagiv. "Understanding Grapheme Personification: A Social Synaesthesia?" *Journal of Neuropsychology* 5, no. 2 (2011): 255–82. https://doi.org/10.1111/j.1748-6653.2011.02016.x; Jewanski, Jörg, Sean A. Day, and Jamie Ward. "A Colorful Albino: The First Documented Case of Synaesthesia, by Georg Tobias Ludwig Sachs in 1812." *Journal of the History of the Neurosciences* 18, no. 3 (2009): 293–303. https://doi.org/10.1080/09647040802431946.

[17] Spence, *Sensehacking,* 2021.

higher pitches with elevated spatial positions, brighter colours with sharper timbres, and denser textures with increased visual complexity. These findings suggest that cross-modal relationships may emerge from shared cognitive tendencies rather than purely subjective experience.

Importantly, Deroy et al[18] caution against reducing all multisensory correspondences to synaesthesia. They argue that many cross-modal associations are probabilistic, culturally mediated, and context-dependent rather than neurologically fixed. This distinction is crucial for the present research, which does not seek to prove neurological synaesthesia but instead investigates perceptually grounded compositional relationships.

The present study therefore adopts a moderated position between subjective synaesthetic experience and universal perceptual mapping. Personal colour-sound associations informed aspects of the compositional process within *Colour Sketches*, particularly in the development of synthetic pitch systems derived from colour analysis. However, these associations were constrained within a broader perceptual framework informed by *Gestalt* organisation and multisensory research. The objective was not autobiographical sensory replication but perceptual coherence.

Cross-modal research also contributes to understanding timbre and orchestration. Palmer, Schloss, and Sammartino[19] demonstrate that aesthetic preference often depends upon perceptual consistency across sensory domains. This insight supports the orchestral strategies employed in *Colour Sketches*, where timbral distribution functions analogously to colour distribution within Kandinsky's paintings.

Embodied Cognition and Neuroaesthetics

Recent developments in embodied cognition and neuroaesthetics have further expanded interdisciplinary discussions concerning perception and artistic experience. Embodied cognition challenges Cartesian separations between mind and body by arguing that perception emerges through bodily interaction with the environment rather than detached cognitive processing[20].

Within music studies, Leman's *Embodied Music Cognition and Mediation Technology*[21] is particularly influential. Leman argues that musical understanding is fundamentally sensorimotor: listeners perceive

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[18] Deroy and Spence, *Cross modal Correspondences,* 38.

[19] Palmer, Stephen E., Karen B. Schloss, and Jonathan Sammartino. "Visual Aesthetics and Human Preference." *Annual Review of Psychology* 64 (2013): 77–107.

[20] Varela, Francisco J., Evan Thompson, and Eleanor Rosch. *The Embodied Mind: Cognitive Science and Human Experience*. Cambridge, MA: MIT Press, 1991.

[21] Leman, *Embodied Music Cognition*, 2007.

sound not only cognitively but physically through imagined movement, spatial orientation, and bodily simulation. This perspective aligns closely with the present study's treatment of visual rhythm as movement-based perception.

Neuroaesthetic research has also provided important insights into multisensory integration. Studies by Amedi et al.[22], Ferrari and Noppeney[23] demonstrate that sensory processing occurs through interconnected neural systems rather than isolated modalities. Predictive processing models proposed by Clark[24]further suggest that perception operates through continuous cycles of expectation, adjustment, and feedback.

These theories are particularly relevant to this artistic research because they frame perception as active construction rather than passive reception. The iterative compositional process employed in *Colour Sketches* reflects this understanding. Musical decisions were continuously revised through embodied listening and perceptual evaluation, creating feedback loops between visual analysis, sonic experimentation, and aesthetic judgement.

The significance of embodied cognition within this study lies in its reconceptualisation of composition itself. Composition becomes not simply the manipulation of abstract musical materials but a form of perceptual enactment through which visual relationships are reconstructed within sound.

Artistic Research and Practice-Based Methodology

While the doctoral study examined a broader range of compositional and perceptual questions across seven works, the present article concentrates specifically on the methodological role of visual rhythm in the development of *Colour Sketches*. The article therefore revisits material from the doctoral project through a more focused analytical and methodological lens.

The methodology discussion on *Colour Sketches*, an orchestral composition developed in response to Kandinsky's *Composition X*. The

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[22] Amedi, Amir, Lotfi B. Merabet, Felipe Bermpohl, and Alvaro Pascual-Leone. "The Occipital Cortex in the Blind: Lessons about Plasticity and Vision." *Current Directions in Psychological Science* 14, no. 6 (2005): 306 11. https://doi.org/10.1111/j.0963-7214.2005.00387.x.

[23] Ferrari, Valeria, and Uta Noppeney. "Attention Controls Multisensory Perception via Two Distinct Mechanisms at Different Levels of the Cortical Hierarchy." *PLOS Biology* 19, no. 6 (2021): 1–31.

[24] Clark, Andy. "Whatever Next? Predictive Brains, Situated Agents, and the Future of Cognitive Science." *Behavioral and Brain Sciences* 36, no. 3 (2013), 187.

work provides a focused case through which to examine the proposition that visual rhythm can operate as a generative compositional resource. The methodology is consequently concerned less with establishing a universal correspondence between visual and musical phenomena than with examining how a situated act of visual perception can generate musical decisions concerning gesture, rhythm, texture, timbre, register and form.

The process was reflective and iterative. Visual observations generated compositional possibilities, which were tested through sketching, instrumental writing, orchestration and subsequent listening. Musical results in turn informed further interpretation of the visual material. The methodology should there be understood as recursive movement between seeing, mapping, composing and listening rather than as a linear translation procedure.

Tracing Visual Attention

The first stage involved tracing the movement of visual attention across *Composition X.* This was not undertaken as empirical eye-tracking in the neuroscientific sense, but as a reflective and embodied method for documenting a situated looking. The trajectory of attention was manually recorded in order to identify focal points, directional tendencies, areas of perceptual tension and relationships between larger and smaller visual structures.

The resulting trace was subsequently simplified by isolating the principal trajectories and focal relationships from the pictorial surface. This reduction was important because it shifted the analytical focus from the represented artwork to its underlying organisation. Triangular, rhomboid, directional, and other geometric relationships could consequently be considered as formal structures rather than as pictorial objects.

The reduced visual field was then examined for differences in scale and density. Larger configurations suggested broader formal relationships, while smaller shapes provided a means of considering local rhythmic and motivic activity. This distinction became particularly important in *Colour Sketches*, where short musical cells are repeatedly redistributed between instrumental groups. Instead of treating motivic development exclusively as linear thematic transformation, the composition uses repetition, fragmentation, and timbral displacement to maintain structural identity while altering perceptual colour.

The eye-tracking sketches therefore served as compositional observations rather than measurements of universal visual behaviour. Their significance lies in documenting a particular perceptual encounter

with the artwork and establishing a reproducible point of departure for the compositional process.

From Visual Rhythm to Musical Organisation

The second stage translated the observed movement of visual attention into temporal and musical relationships. This process draws particularly on Rudolf Arnheim's conception of visual rhythm, in which rhythm can emerge from the movement of attention through spatial relationships rather than solely from repetition or metric organisation. In this study, visual rhythm is consequently understood as a pattern of perceptual movement through space.

The compositional procedure involved identifying changes in visual direction, density, proximity, and focal intensity and considering their possible temporal equivalents. Rather than assigning a fixed musical meaning to each visual feature, the analysis treated these characteristics as prompts for compositional decision-making. A rapid succession of small visual elements, for example, could suggest increased rhythmic activity, while a larger or more isolated visual structure could generate sustained musical material or a formal point of emphasis.

This approach also allowed spatial relationships to be considered temporally. Movement through the visual field could become movement through musical time; perceptual accumulation could become increasing orchestral density; visual interruption could become a registral or textural rupture; and a focal point could become a musical arrival or climax. Such correspondences were treated as compositional affordances rather than as deterministic translations.

The reduction of the visual material was particularly significant in the construction of *Colour Sketches*. Smaller visual structures became sources for fragmented motivic material, while larger structures contributed to the organisation of broader formal sections. The resulting music therefore derives its continuity not only from thematic development but also from the recurrence and transformation of perceptual relationships.

Compositional Mapping and Interpretation

The final stage involved establishing functional relationships between visual attributes and musical parameters. The mapping process was deliberately interpretative. It did not attempt to establish that a particular shape, colour, or spatial relationship possesses one objectively correct musical equivalent. Instead, visual characteristics were used to generate compositional possibilities whose validity was subsequently assessed through musical coherence and listening.

The principal correspondences operated at several levels. Directional visual movement could inform melodic or registral trajectory; differences in visual density could influence rhythmic activity and orchestral saturation; spatial proximity could inform motivic grouping; contrast could produce differences in orchestration or register; and focal relationships could contribute to formal emphasis. In this sense, the mapping framework functioned as a set of compositional constraints and prompts rather than a formula for generating music.

Colour occupied a related but distinct position within the process. A personalised colour-wheel system was used to associate colours encountered in *Composition X* with pitch materials and thereby generate synthetic pitch collections. These associations were not presented as universal colour–pitch correspondences. Rather, they provided a consistent set of initial conditions from which musical material could be generated and subsequently evaluated within the compositional process.

Kandinsky's theoretical vocabulary provided a further means of articulating these relationships. Point, line, plane, spatial organisation, colour, and focal emphasis were considered in terms of their functional roles within the visual composition and then related to musical parameters such as attack, melodic trajectory, texture, timbre, register, dynamics, and form. The purpose was not to reproduce the visual image acoustically, but to preserve aspects of its organisational logic within a different perceptual medium.

The resulting methodology therefore operates through a sequence of observation, reduction, mapping, composition, and reflection. Its central proposition is that visual rhythm can become musically generative when perceptual relationships are abstracted from the artwork and reconfigured as temporal, rhythmic, timbral, and formal relationships.

Analysis of *Colour Sketches*: From Visual Attention to Musical Form

The compositional problem was not how to reproduce individual objects in the painting, but how to construct musical processes capable of producing analogous experiences of movement, concentration, interruption, suspension, and release. The resulting work can be understood as an interaction between three forms of organisation: perceptual density, directional movement, and focal emphasis**.** These dimensions operate simultaneously. A visually concentrated region may generate increased musical activity; a directional visual relationship may become a melodic or registral trajectory; and a focal point may become a moment at which orchestral attention is intensified or redirected. The correspondence is therefore functional rather than literal.

Density as Temporal Activity

One of the most significant characteristics of *Composition X* is the uneven distribution of visual information. Areas containing numerous shapes, colours, and intersecting trajectories contrast with regions in which individual forms are more isolated. Rather than interpreting these differences as static representations, *Colour Sketches* treats them as changes in the rate and intensity of musical activity.

This principle is evident in the transition from relatively sparse musical events toward increasingly saturated orchestral textures. The opening does not immediately establish a fully articulated rhythmic environment. Instead, individual events are allowed to occupy considerable perceptual space. As additional layers enter, the listener's attention is required to negotiate increasingly simultaneous streams of information.

The relationship between density and musical activity is particularly apparent in the central sections of the work. Between approximately 03:15 and 05:00, the gradual addition of brass, lower winds, strings, woodwinds, and piano produces an increasingly saturated texture. The process culminates between approximately 05:10 and 06:57, where the full ensemble participates in overlapping rhythmic and harmonic activity. In this passage, orchestral density functions as a temporal analogue for the concentration of visual information within the painting.

This relationship is important because it shifts the notion of visual rhythm away from a simple analogy with musical pulse. Rhythm here emerges through the changing quantity and distribution of perceptual information. The listener experiences acceleration or intensification not necessarily because the tempo increases, but because more simultaneous events demand attention.

Direction, Trajectory, and Musical Motion

A second dimension concerns the directional organisation of the visual field. The sweeping and curvilinear elements of *Composition X* suggest continuous movement, while sharper and more fragmented forms interrupt that continuity. In *Colour Sketches*, these distinctions become audible through differences in melodic trajectory, articulation, register, and orchestral gesture.

The passage between approximately 01:53 and 02:21 provides an example. Woodwind fragments gradually acquire duration and directional continuity, transforming isolated events into extended melodic gestures. The movement is subsequently redirected by the entrance of the piano between approximately 02:21 and 03:03. Rather than functioning simply as the introduction of another instrumental colour, the piano changes the direction of the listener's attention and marks a transition between larger musical regions.

This process suggests that visual direction can be interpreted musically as a change in the trajectory of attention. A line moving across a visual field does not need to become a melody in a one-to-one sense. Instead, its directional character can prompt a musical process in which the ear is guided toward a new register, timbre, dynamic region, or formal destination.

The same principle operates at a larger scale. Ascending and descending gestures, changes of register, and shifts between instrumental groups establish trajectories through the orchestral space. Musical direction consequently becomes one of the means through which the composition reconstructs the experience of moving through the visual field.

Focal Points and the Redistribution of Attention

The visual analysis also identified areas in *Composition X* that exerted a stronger perceptual pull than their surroundings. In the composition, these focal relationships are realised through changes in orchestral prominence rather than through a fixed musical equivalent.

One example occurs at approximately 03:57, when fragments associated with earlier pointillistic material reappear within the winds and percussion. These short interventions interrupt the surrounding continuity and redirect attention toward isolated events. The effect is significant because the musical texture does not simply accumulate toward greater complexity; it repeatedly reorganises the listener's attention by bringing peripheral material into temporary prominence.

A related process occurs in the contrast between the opening and the later brass climax. Bars 1–15 begin with sustained orchestral sonorities and minimal rhythmic propulsion. This opening was associated with the large dark region occupying the lower portion of *Composition X*. Rather than interpreting the black area as an absence of material, the composition treats it as a condition of suspension from which subsequent activity can emerge.

The contrast becomes particularly pronounced in bars 116–149, where the passage corresponds to a region of heightened colour and visual activity within the painting (C1-3, see annexure 1). The musical effect is therefore produced not through the literal reproduction of colour, but through a redistribution of perceptual weight: the listener's attention moves from a relatively suspended sonic field toward a highly saturated orchestral event.

From Fragmentation to Orchestral Field

The relationship between local events and larger structures is central to the compositional process. Short musical fragments derived from the visual analysis recur throughout *Colour Sketches*, but their identity is continually modified by changes in instrumentation, register, articulation, and surrounding texture.

The result is a form of motivic continuity that does not depend primarily on conventional thematic development. A fragment can return in another instrumental register or timbral environment while retaining enough of its characteristic contour or rhythm to remain perceptually recognisable. The musical idea therefore behaves less like a conventional theme and more like a recurring visual element whose appearance changes according to its position within the larger field.

This approach can be heard in the redistribution of short figures between instrumental groups between bars 90-139. A gesture introduced by one instrument may subsequently appear elsewhere in the orchestra, creating continuity through recurrence while simultaneously altering its timbral identity. The resulting process is particularly suited to the visual logic of *Composition X*, where small forms coexist within a larger field and where relationships between forms are as important as the forms themselves.

The compositional consequence is that orchestration becomes a means of structural transformation. Timbre does not merely colour an already established musical object; it changes the perceptual status of that object within the surrounding texture.

Orchestral Colour as Perceptual Differentiation

Colour was another important dimension of the mapping process, but its function within the composition is not reducible to a direct colour-to-instrument substitution. Instead, orchestral colour becomes a means of differentiating perceptual layers.

The vibraphone, for example, frequently occupies a distinctive role in the work, particularly between approximately 06:02 and 06:38 (bars 139-150) and elsewhere in the surrounding texture. Its resonance contributes a sense of luminosity and persistence that allowed it to function as a contrasting layer against denser orchestral sonorities. Muted brass produces a markedly different perceptual effect, suggesting distance, opacity, or interruption when placed against lighter string and woodwind textures. Pizzicato strings and fragmented solo gestures similarly create moments of relative lightness within larger orchestral fields.

These choices should not be understood as universal equivalents of particular colours. They arise from the interaction between the visual stimulus, the composer's perceptual associations, and the practical characteristics of the instruments. Colour therefore operates as a compositional category through which differences in timbral brightness, density, resonance, and prominence can be organised.

This is consistent with the broader methodology of the study, in which cross-modal relationships function as interpretative affordances rather than fixed translations. The same visual stimulus could therefore plausibly generate different musical solutions under different compositional conditions.

Independent Layers and Perceptual Grouping

The work also explores the possibility of allowing several musical trajectories to remain active simultaneously. Between approximately 03:30 and 06:15, individual instrumental lines frequently operate with a degree of independence, creating a layered rhythmic environment in which no single pulse necessarily governs the entire texture.

At approximately 04:50, this becomes particularly pronounced. Individual gestures behave as relatively autonomous strands within a larger orchestral field. The resulting polyrhythmic texture allows several trajectories to coexist without being completely synchronised. This is significant from a perceptual perspective because it places the listener in a position of selecting and shifting between competing streams of information.

Such writing relates to the *Gestalt* principle of grouping, but the article's concern is not to claim a direct equivalence between visual and

auditory *Gestalt* processes. Rather, the composition uses grouping and segregation as practical compositional problems. Similar timbres or rhythmic behaviours can encourage the ear to form a perceptual stream, while contrasting timbres can interrupt that grouping and redirect attention.

Orchestration therefore becomes a mechanism for managing perceptual hierarchy. Flutes and clarinets, for instance, can form a relatively coherent layer through similarity of timbral behaviour, while the introduction of a contrasting trumpet can function as a perceptual interruption. In bars 27–61 (01:18-03:00), the overlapping woodwind textures establish continuity before the entrance of the trumpet at approximately bar 40 redirects attention toward a contrasting sonic event.

Cyclic Time and Suspension

Percussion provides another means of transforming the visual organisation of *Composition X* into musical time. The section between approximately 03:48 and 04:47 makes particular use of snare, vibraphone and woodblock patterns, creating repeated rhythmic cycles against changing instrumental colours.

Rather than functioning primarily as conventional accompaniment, these cycles establish a relatively stable temporal frame within which timbral events can appear and disappear. The resulting perception is one of suspended or circular time: repetition establishes continuity while changes in instrumentation prevent the texture from remaining static.

This is significant for the concept of visual rhythm developed in this article. Visual rhythm does not necessarily imply continuous forward motion. A repeated visual relationship can produce a sense of return, while subtle changes within the repeated structure can sustain perceptual attention. The percussion writing therefore demonstrates how a spatial relationship can become a temporal process without requiring a literal translation of visual material.

Visual Rhythm as a Generative Compositional Principle

Taken together, these examples suggest that the most productive relationship between *Composition X* and *Colour Sketches* occurs at the level of organisation rather than representation. Visual density becomes a means of considering orchestral saturation; directional movement becomes musical trajectory; focal emphasis becomes redistribution of attention; and visual layering becomes simultaneous musical activity.

The resulting composition therefore does not ask the listener to identify specific objects from Kandinsky's painting. Instead, it attempts to recreate aspects of the perceptual conditions produced by the painting:

concentration and dispersal, continuity and interruption, stability and instability, foreground and background, and local detail within a larger field.

This distinction is important to the methodological claim of the study. The visual artwork does not provide a predetermined musical vocabulary. It provides a perceptual environment from which compositional decisions can be generated. The composer remains responsible for interpreting, selecting, testing, and refining the resulting musical material.

In this sense, *Colour Sketches* demonstrates how visual rhythm can move beyond metaphor and become operational within composition. The painting supplies relationships; the compositional process transforms those relationships into temporal and sonic behaviour; and listening provides the means through which the resulting musical structure is evaluated and revised.

The analysis therefore supports the broader proposition of this article: visual rhythm can function as a structurally generative compositional resource when it is treated not as a system of fixed correspondences but as a framework for organising attention, density, trajectory, and perceptual change.

The influence of these visual principles becomes directly apparent within the composition through the following time-stamped examples from the recording of *Colour Sketches.*

Characteristics of the visual field, its distribution of activity, directional movement, contrasts between concentration and sparsity, and shifts in perceptual emphasis were treated as prompts for musical organisation. This process can be heard from the opening of the work.

Cognition, Embodiment, and Cross-Modal Interpretation

The compositional process also demonstrates that the relationship between visual and musical material was neither automatic nor mechanically determined. Visual information was interpreted through memory, learned associations, bodily experience, and compositional intention. The movement from visual observation to musical material therefore involved repeated acts of selection and judgement.

This is particularly evident in the treatment of colour. The colour-to-pitch relationships employed in *Colour Sketches* are not proposed as objective correspondences that would necessarily be reproduced by another composer. They constitute a personalised compositional system through which visual information could generate musical possibilities. Instrumentation, register, rhythmic behaviour, and texture were

subsequently determined through compositional experimentation and listening.

The process was similarly embodied. Visual ideas were translated into musical gestures through interaction with instruments, notation, orchestration, and sound. Decisions that originated as visual observations were therefore repeatedly tested through the physical and temporal realities of musical performance. The resulting work represents not a direct conversion from one sensory modality to another, but a series of transformations mediated by compositional practice.

This distinction is important for understanding the role of synaesthetic thinking in the work. The composition does not depend upon the assumption that a visual stimulus possesses one stable musical equivalent. Instead, synaesthetic association functions as a generative condition through which unexpected relationships can be proposed and explored. Visual forms may suggest a timbral quality; a colour may prompt a pitch association; spatial movement may suggest registral direction; and visual density may encourage greater rhythmic or orchestral activity. Each association remains subject to musical evaluation.

The compositional process can therefore be understood as a feedback relationship between perception and creation. Visual observation generates musical hypotheses; musical experimentation tests those hypotheses; and listening subsequently modifies the interpretation of the visual material. In this sense, composition becomes a site of cross-modal inquiry in which perception is neither simply translated nor reproduced, but continually reinterpreted.

From Visual Correspondence to Compositional Logic

Taken together, these examples indicate that the relationship between *Composition X* and *Colour Sketches* operates most productively at the level of compositional logic. It adopts several organisational conditions identified through the visual analysis: the distribution of density, the movement of attention, the coexistence of independent elements, the alternation between activity and suspension, and the use of contrast to establish perceptual hierarchy.

This distinction also clarifies the role of Kandinsky's concepts of point, line, and plane within the composition. These concepts provide a vocabulary through which transformations in visual organisation can be articulated, but the musical work does not depend upon a one-to-one translation of point into sound, line into melody, or plane into orchestral texture. The more significant correspondence occurs when a visual relationship generates a musical process.

The opening percussion, for example, establishes discrete events; the woodwind writing subsequently introduces directional continuity; accumulated orchestral layers increase perceptual density; independent rhythmic strands complicate the field; and contrasting timbres repeatedly redirect attention. These processes collectively demonstrate how visual organisation can become temporally and sonically operational.

Colour Sketches therefore emerges not as a sonic illustration of *Composition X*, but as an independent musical work generated through an encounter with its perceptual and organisational principles. The painting provides the initial field of investigation, while composition becomes the means through which its relationships are tested in another sensory medium. The resulting methodology suggests that visual rhythm can function as a generative compositional principle when it is understood in terms of perceptual organisation rather than fixed correspondence**.** Density can become orchestral saturation; visual direction can become musical trajectory; spatial contrast can become timbral differentiation; and the movement of attention can become formal articulation. These transformations preserve neither the visual image nor its individual objects, but rather aspects of the organisational behaviour through which the image is experienced.

Colour and Synthetic Pitch Systems

The germinal musical material for *Colour Sketches* emerged through a personalised colour-wheel system (see figure 5) in which colours from Kandinsky's paintings were associated with specific pitch collections. These colour-pitch relationships generated synthetic scales (see figure 8)that became the basis for motivic construction.

Rather than claiming objective colour-pitch correspondences, the study treats synaesthetic associations as compositional starting points. Subjective photisms informed the initial mapping conditions, but these were constrained within the broader perceptual framework to avoid purely idiosyncratic outcomes. The emphasis remained on musical intelligibility rather than autobiographical sensory replication.

Through this process, colour operated not merely as harmonic symbolism but as a generator of pitch organisation, orchestral timbre, and formal pacing.

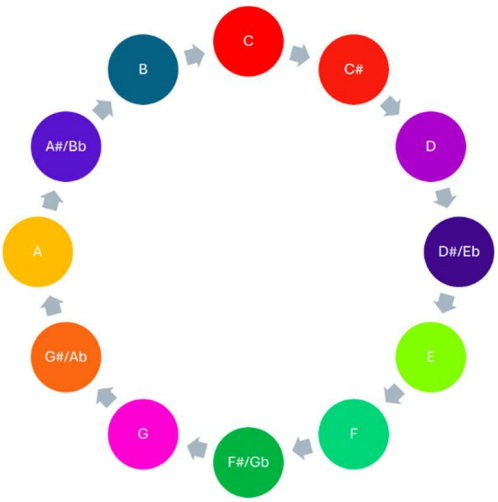


Figure 1: Personal Colour Wheel

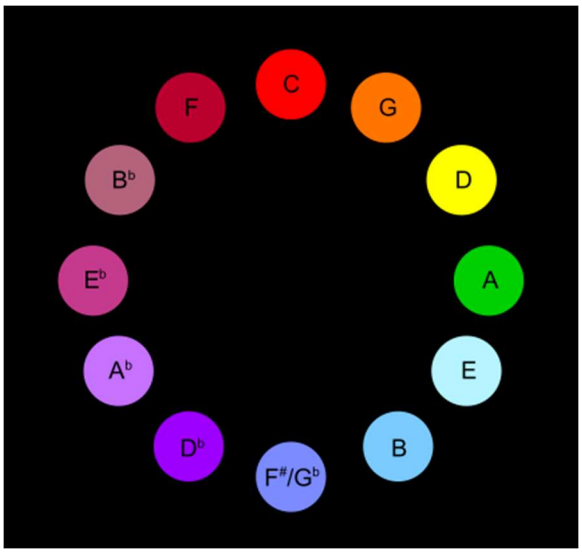


Figure 2: Scriabin's Colour Wheel
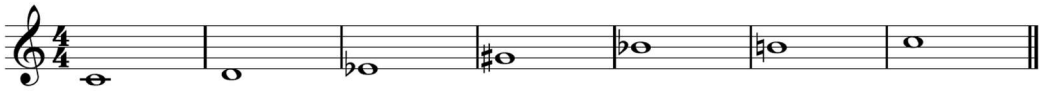


Figure 3: Synthetic Scale based on colours in Composition X.

Synaesthetic Mapping and Cross-Modal Perception

Although the study engages synaesthetic concepts, it does not attempt to demonstrate neurological synaesthesia in a clinical sense. Rather, it explores broader cross-modal correspondences grounded in embodied and perceptual cognition. Research in multisensory perception demonstrates that humans consistently associate higher pitches with elevated spatial positions, brighter timbres with lighter colours, and denser textures with greater visual complexity[25]. These relationships suggest that perceptual systems share organisational tendencies across modalities.

The compositional framework developed here therefore operates through perceptual plausibility rather than universal equivalence. Cross-modal mapping functions as a field of interpretative affordances rather than fixed translation rules.

Tempo and Movement

Kandinsky's visual organisation provides a framework for considering how rhythmic qualities may be translated from the visual to the musical domain. Rather than treating the painting's rhythmic character as a direct equivalent of musical rhythm, I interpret its contrasting forms as suggestive of different modes of musical movement. The broad, continuous gestures visible in Figures 4 and 5 (see annexure 1, grids A3, B3, and C3–E3) can be associated with sustained, legato passages, in which musical lines unfold with a sense of continuity and fluidity. Conversely, the angular and fragmented shapes identified in Annexure 1 (B4–5, A5, B1–2, C1–2, and D4–5) lend themselves to more articulated musical treatments, including staccato figures and percussive rhythmic gestures. The resulting compositional approach therefore draws on the painting's visual contrasts as a means of shaping musical articulation, continuity, and rhythmic character.

[25] Spence, *Sensehacking*, 1978.



Figure 4: Sweeping lines in A3-B3.

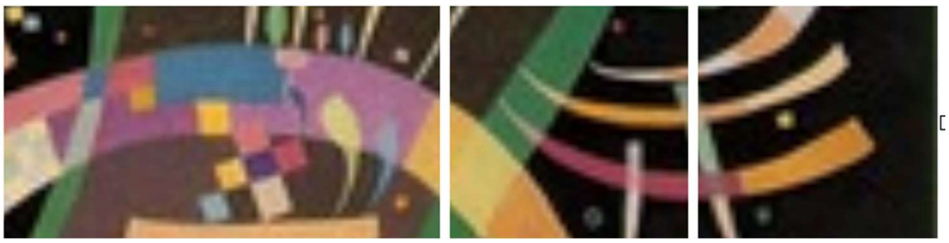


Figure 5: Sweeping figures from C3-E3.

Colour and Harmony

The chromatic contrasts in *Composition X* provide another point of departure for translating Kandinsky's visual language into musical parameters. Rather than assigning a fixed musical equivalent to each colour, the compositional process treats the painting's contrasting hues as prompts for exploring different harmonic characters. The saturated reds and yellows visible in the work (see Figure 6; Annexure 1, grids A4, C5, B4, B2, C1–2, and D1–2) suggest harmonic fields characterised by brightness, intensity, and forward momentum. These qualities may be realised through major sonorities, registral emphasis, or more active harmonic movement. By contrast, the presence of darker blues and black introduces a markedly different expressive register, one that can be explored through minor sonorities, reduced harmonic activity, and denser or more restrained textures. The resulting harmonic language therefore does not seek to establish a literal colour-to-chord correspondence, but rather uses Kandinsky's chromatic relationships as an interpretive stimulus for constructing contrasting emotional and expressive states.

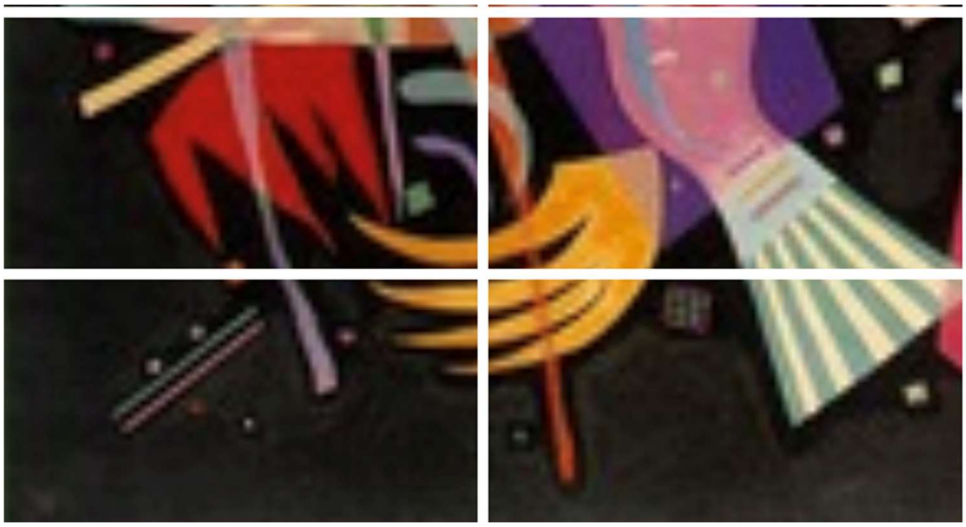


Figure 6: Jagged reds and yellows in A4, B4 and 5.

Contrast and Tension

The visual dialogue between organic, curvilinear shapes and sharply angular forms in *Composition X* (see Annexure 1, grids A3, B3, and C3; A4, B4–5, B2, C2, and D5) informed the treatment of musical texture as a site of contrast and transformation. Rather than assigning a fixed orchestral equivalent to each visual element, the compositional approach explores how differing textural densities and timbral combinations can project qualities analogous to those observed in the painting. Passages characterised by continuity and fluidity may emerge through sustained instrumental layering, whereas abrupt changes in texture, articulation, or orchestral colour can evoke the disruptive presence of angular forms. These oppositions are further intensified through harmonic instability and moments of dissonance, creating a dynamic interplay between cohesion and fragmentation that reflects the visual tensions embedded within Kandinsky's composition.



Figure 7: Curvilinear shapes in A3-B3.

Listening to Images

The phrase *listening to images* encapsulates the broader conceptual argument of this article. The goal is not to collapse vision and sound into identical systems but to reveal shared perceptual logic between them.

Within *Colour Sketches*, visual rhythm becomes audible through temporal organisation, orchestral colour, motivic fragmentation, and textural pacing. The listener is not expected to *hear* Kandinsky's paintings literally. Instead, the music seeks to recreate perceptual experiences analogous to moving through visual abstraction. This process transforms composition into a form of perceptual reconstruction. Musical structure emerges not from abstract formal systems alone but from embodied engagement with visual movement and spatial tension.

Implications for Interdisciplinary Composition

The study contributes to contemporary composition by expanding the concept of rhythm beyond meter, pulse, or repetition. Visual rhythm introduces a spatial conception of rhythmic organisation rooted in perceptual movement and attentional flow. This reconceptualisation allows rhythm to function structurally across texture, orchestration, form, and timbre rather than solely within durational frameworks. Consequently, visual rhythm becomes a compositional resource capable of generating large-scale formal organisation.

Artistic Research and Cognitive Inquiry

The research also contributes to artistic research discourse by demonstrating how composition may function as perceptual inquiry. Rather than merely illustrating theoretical concepts, the compositional process itself generates knowledge concerning multisensory organisation and perceptual structure. This aligns with contemporary perspectives in embodied cognition and neuroaesthetics, which increasingly recognise the active, multisensory nature of artistic perception.

Limitations and Future Research

The framework developed in this study does not claim universality. Colour associations remain culturally and individually variable, and the perceptual effectiveness of the mappings has not been empirically tested with listeners. Future research may therefore integrate listener-response studies, computational modelling, eye-tracking technologies, and cross-cultural investigations to explore the broader applicability of visual-musical correspondences.

Additionally, computational systems may provide new possibilities for algorithmic visual-to-musical translation, while collaborative

interdisciplinary research between composers, psychologists, and neuroscientists may further clarify the relationship between perception and compositional structure.

Conclusion

This study has argued that visual rhythm may function as a structurally generative force within musical composition when approached through perceptually grounded methodologies. By engaging with the abstract visual language of *Composition X* by Wassily Kandinsky, the research has demonstrated that visual organisation can be translated into orchestral form through processes informed by *Gestalt* perception, artistic research, embodied cognition, and cross-modal mapping. Rather than treating visual art as metaphorical inspiration, the study proposed that perceptual relationships embedded within abstract painting may generate temporal musical structures capable of reconstructing the experience of seeing through sound.

How can visual rhythm be translated into musical composition through a systematic and perceptually grounded process?

This study aims to demonstrate that visual rhythm may be translated into musical composition through a structured process of perceptual analysis and compositional mapping. Through eye-tracking reduction, geometric tracing, colour mapping, and the analysis of spatial vectors within *Composition X*, visual movement was reinterpreted as orchestral gesture, rhythmic pacing, registral direction, textural density, and formal development within *Colour Sketches*. Rather than relying upon literal representation, the composition translated perceptual behaviours into musical processes. Visual trajectories became melodic motion, chromatic density became orchestral saturation, fragmentation became distributed motivic activity, and spatial suspension became harmonic stillness. The findings therefore suggest that rhythm may emerge not only from metric organisation, but from the movement of perceptual attention itself. Visual rhythm consequently functions as a viable compositional generator when grounded in perceptual structure and embodied listening.

In what ways may *Gestalt* perception function as a shared organisational framework between visual and auditory experience?

The research demonstrated that *Gestalt* perception provides an important cognitive framework through which visual and musical organisation may be understood comparatively. Both seeing and hearing rely upon the grouping of fragmented information into coherent perceptual structures through principles such as proximity, similarity, continuity, contrast, and

directional tension. In *Composition X*, disconnected shapes and vectors become perceptually unified through spatial relationships. Similarly, within *Colour Sketches*, fragmented orchestral gestures are grouped by the listener into coherent musical structures through shared contour, timbral association, registral movement, and rhythmic identity. The study therefore concludes that *Gestalt* perception functions not solely as a theory of visual cognition, but as a broader model of multisensory organisation through which both visual and auditory coherence emerge relationally.

How can Kandinsky's abstract visual grammar generate orchestral structure, rhythm, texture, and form?

The study found that Kandinsky's abstractionist vocabulary possesses latent temporal and structural qualities capable of generating orchestral organisation. Visual points were interpreted as isolated orchestral attacks and percussive articulations, while lines became melodic trajectories and gestural motion. Curvilinear forms informed registral expansion and sustained orchestral flow, whereas angular geometric tensions generated rhythmic instability, interruption, and contrapuntal opposition. Colour relationships were translated into timbral identity, harmonic density, and orchestral brightness. Most significantly, Kandinsky's spatial organisation influenced the formal behaviour of *Colour Sketches* itself. The composition unfolds through accumulative perceptual relationships analogous to the visual experience of navigating abstract space rather than through conventional thematic development alone. The findings therefore suggest that Kandinsky's visual grammar may function as a generative structural system capable of shaping orchestral rhythm, texture, pacing, and form.

To what extent may artistic research contribute to interdisciplinary understandings of perception and composition?

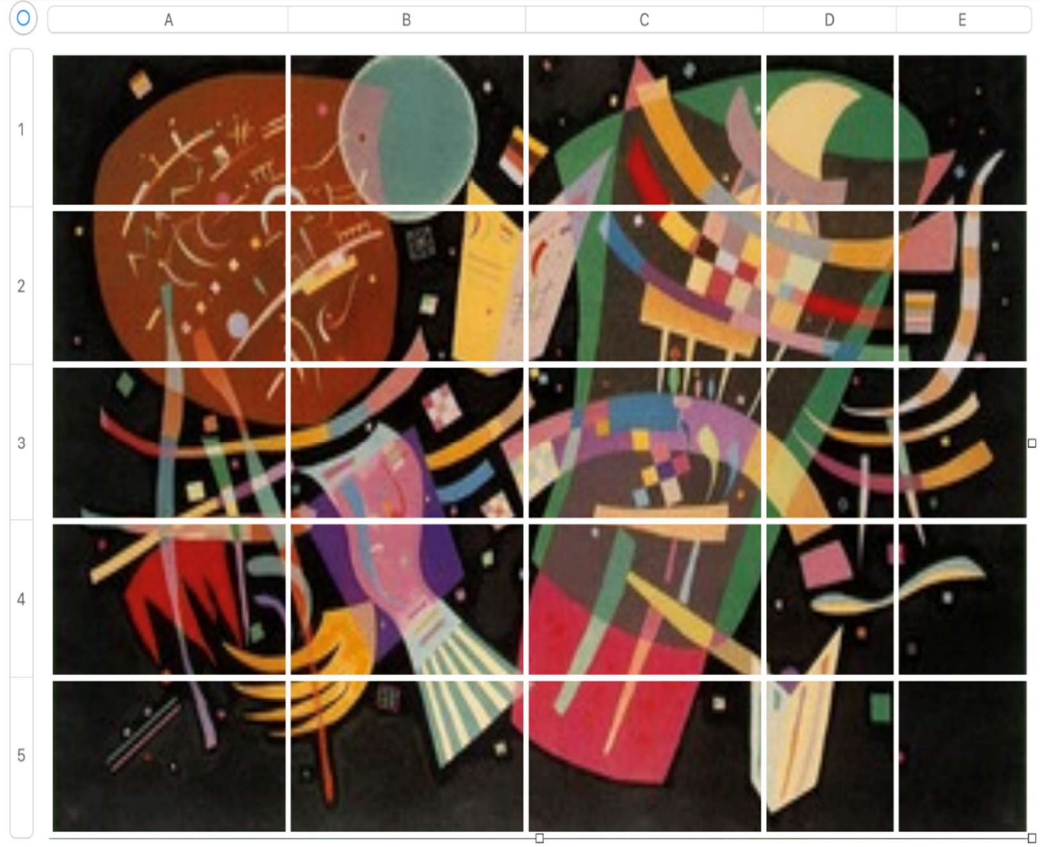
This study demonstrated that artistic research offers a significant contribution to interdisciplinary understandings of perception because creative practice itself becomes a mode of inquiry. Rather than separating theory from composition, the research process unfolded through iterative interaction between visual analysis, orchestration, listening, embodied response, and compositional revision. Knowledge emerged through the act of composing as much as through theoretical reflection. *Colour Sketches* therefore functions simultaneously as artwork, perceptual investigation, and theoretical proposition. The study concludes that artistic research enables perceptual theories to be explored through sensory experience, allowing relationships between sight, sound,

movement, and cognition to become materially and temporally articulated through artistic practice.

At the same time, the research acknowledges important limitations. The mappings between colour, sound, gesture, and form cannot be treated as universally fixed correspondences. Perception remains shaped by culture, embodiment, memory, and individual interpretation. The compositional framework developed in this study therefore does not claim objective equivalence between visual and auditory phenomena, nor does it seek to prove neurological synaesthesia. Instead, it proposes that perceptually plausible relationships may generate coherent compositional systems capable of producing meaningful interdisciplinary structures. Future research may extend this investigation through listener studies, computational modelling, neuroaesthetic experimentation, and cross-cultural analysis.

Ultimately, *Colour Sketches* demonstrates that interdisciplinary composition may move beyond metaphor toward perceptual reconstruction. The work suggests that abstract painting and orchestral music are not merely parallel artistic languages, but interconnected systems of perceptual organisation capable of shaping human experience across sensory domains. By translating visual rhythm into orchestral time, the study proposes a compositional model in which music becomes a medium for listening to images, revealing the profound interconnectedness of seeing, hearing, movement, and cognition.

Annexure 1



Annexure 2



Bibliography

Amedi, Amir, Lotfi B. Merabet, Felipe Bermpohl, and Alvaro Pascual-Leone. "The Occipital Cortex in the Blind: Lessons about Plasticity and Vision." *Current Directions in Psychological Science* 14, no. 6 (2005): 306–11. https://doi.org/10.1111/j.0963-7214.2005.00387.x.

Amin, Maina, Olufemi Olu-Lafe, Loes E. Claessen, Monika Sobczak-Edmans, Jamie Ward, Adrian L. Williams, and Noam Sagiv. "Understanding Grapheme Personification: A Social Synaesthesia?" *Journal of Neuropsychology* 5, no. 2 (2011): 255–82. https://doi.org/10.1111/j.1748-6653.2011.02016.x.

Arnheim, Rudolf. *Art and Visual Perception: A Psychology of the Creative Eye*. Berkeley: University of California Press, 1974.

Brougher, Kerry, Judith Zilczer, Ari Wiseman, and Vivian Endicott Barnett. *Visual Music: Synaesthesia in Art and Music since 1900*. London: Thames & Hudson, 2005.

Clark, Andy. "Whatever Next? Predictive Brains, Situated Agents, and the Future of Cognitive Science." *Behavioral and Brain Sciences* 36, no. 3 (2013): 181–204.

Deroy, Ophelia, and Charles Spence. "Crossmodal Correspondences: Four Challenges." *Multisensory Research* 29, nos. 1–3 (2016): 29–48.

Ferrari, Valeria, and Uta Noppeney. "Attention Controls Multisensory Perception via Two Distinct Mechanisms at Different Levels of the Cortical Hierarchy." *PLOS Biology* 19, no. 6 (2021): 1–31.

Florman, Lisa. *Concerning the Spiritual—and the Concrete—in Kandinsky's Art*. Stanford, CA: Stanford University Press, 2014.

Jewanski, Jörg, Sean A. Day, and Jamie Ward. "A Colorful Albino: The First Documented Case of Synaesthesia, by Georg Tobias Ludwig Sachs in 1812." *Journal of the History of the Neurosciences* 18, no. 3 (2009): 293–303. https://doi.org/10.1080/09647040802431946.

Kandinsky, Wassily. *Concerning the Spiritual in Art*. Translated by M. T. H. Sadler. New York: Dover Publications, 1977.

———. *Point and Line to Plane*. Translated by Howard Dearstyne and Hilla Rebay. New York: Dover Publications, 1979.

Kubovy, Michael. *The Psychology of Perspective and Renaissance Art*. Cambridge: Cambridge University Press, 1986.

Leman, Marc. *Embodied Music Cognition and Mediation Technology*. Cambridge, MA: MIT Press, 2007.

Marks, Lawrence E. *The Unity of the Senses: Interrelations among the Modalities*. New York: Academic Press, 1978.

Palmer, Chesney. *Colour Sketches*. Cape Town Philharmonic Orchestra. Conducted by Jeremy Silver. Video recording. YouTube. https://youtu.be/RsqC9XYE4VA.

Palmer, Chesney. *Colour Sketches*. Full orchestral score. Cape Town, South Africa, 2025.

Palmer, Stephen E. *Vision Science: Photons to Phenomenology*. Cambridge, MA: MIT Press, 1999.

Palmer, Stephen E., Karen B. Schloss, and Jonathan Sammartino. "Visual Aesthetics and Human Preference." *Annual Review of Psychology* 64 (2013): 77–107.

Ramachandran, V. S., and Edward M. Hubbard. "Psychophysical Investigations into the Neural Basis of Synaesthesia." *Proceedings of the Royal Society B: Biological Sciences* 268, no. 1470 (2001): 979–83.

———. "Synaesthesia—A Window into Perception, Thought and Language." *Journal of Consciousness Studies* 8, no. 12 (2001): 3–34.

Rucsanda, Mădălina Dana. "Aspects of the Relationship between Music and Painting and Their Influence on Schoenberg and Kandinsky." *Bulletin of the Transilvania University of Braşov. Series VIII: Performing Arts* 12, no. 2 (2019): 91–100. https://doi.org/10.31926/but.pa.2019.12.61.21.

Sachs, Georg Tobias Ludwig. *Historiae Naturalis Duorum Leopardorum*. Erlangen: Palm, 1812.

Spence, Charles. *Sensehacking: How to Use the Power of Your Senses for Happier, Healthier Living*. London: Viking, 2021.

Varela, Francisco J., Evan Thompson, and Eleanor Rosch. *The Embodied Mind: Cognitive Science and Human Experience*. Cambridge, MA: MIT Press, 1991.

Weiss, Peg. *Kandinsky and Old Russia: The Artist as Ethnographer and Shaman*. New Haven, CT: Yale University Press, 1995.

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